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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,806	03/09/2004	James H. Mabe	7784-000704US	2080

27572 7590 06/30/2005

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EXAMINER
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WILLIAMS, MARK A

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/796,806	<b>Applicant(s)</b> MABE, JAMES H.	
	<b>Examiner</b> Mark A. Williams	<b>Art Unit</b> 3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/08/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 35-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 35, 36, 41-43, and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent JP 408228910 A ('910). A hinge apparatus comprising a hinge pin 7 formed of a two-way shape memory alloy (SMA) adapted to transition, without an externally applied load, between a first trained shape and a second trained shape upon switching the two-way SMA between a first state and a second state, wherein switching the two-way SMA from the first state to the second state causes the hinge apparatus to apply an opening force to a device coupled to the hinge apparatus, and wherein switching the two-way SMA from the second state to the first state causes the hinge apparatus to apply a closing force to the device coupled to the hinge apparatus. First and second states of austenitic state and martensitic states, responsive to temperature as claimed, are inherent to the design, as known in the art. Twisting of the pin as claimed would inherently

occur. Member 2 is broadly considered a door. The device could be formed by thermal cycling, as claimed. The device can be broadly considered a piano hinge. A key-spline arrangement rigidly securing the two-way shape memory alloy to the hinge leafs for transfer of torque from the two-way SMA. The ends of the pin including tabs for transferring torque, as claimed.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37-40 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent JP 408228910 A ('910). Patent '910 discloses the claimed invention except for the particular range of cycling. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device in such a way, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Such a modification would solve no stated problem and would have produced no unexpected results.

### ***Response to Arguments***

3. Applicant's arguments filed 6/8/05 have been fully considered but they are not persuasive.

Applicant argues that a "key-spline arrangement" as claimed would overcome the rejection of record with respect to Japanese patent '910. However, upon detailed review of the claim, it is the position of the examiner that such a term as "key-spline arrangement" cites no specific structure and thus is considered a very broad term. Patent '910 can be broadly interpreted to read on this limitation in that the bent region on both ends of the wire can be considered part of a key-spline arrangement, especially since it serves the same function.


### ***Conclusion***

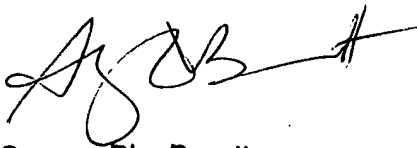
This action is non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Williams whose telephone number is (571) 272-7064. The examiner can normally be reached on Monday through Friday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Williams  
6/26/05 

  
Suzanne Dino Barrett  
Primary Examiner